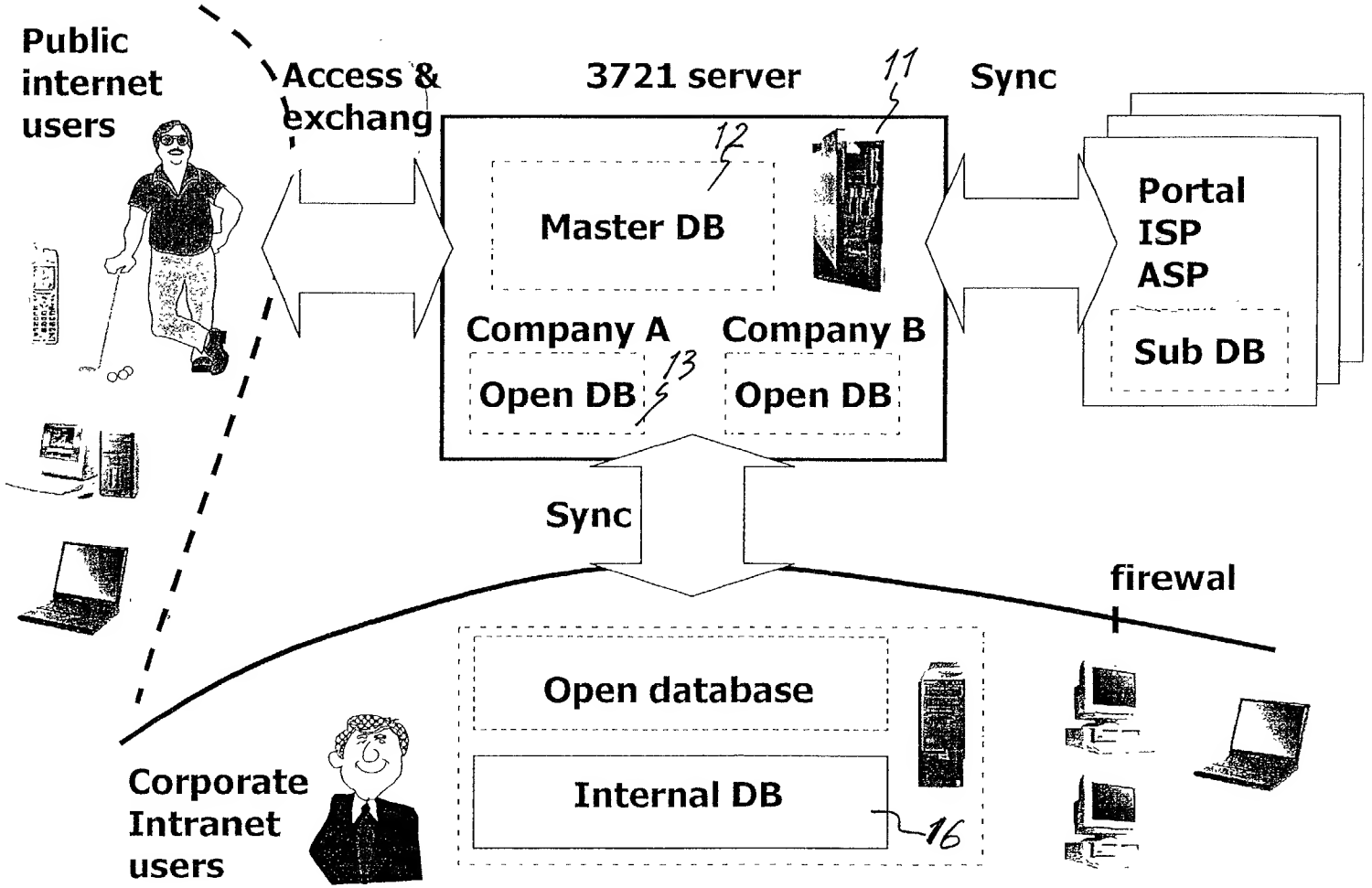
Public internet users
Access & exchang
3721 server
11
Sync
12
Master DB
Portal
ISP
ASP
Company A
Company B
Sub DB
Open DB
13
Open DB
Sync
firewal
Open database
Internal DB
16
Corporate Intranet users

FIG 1A

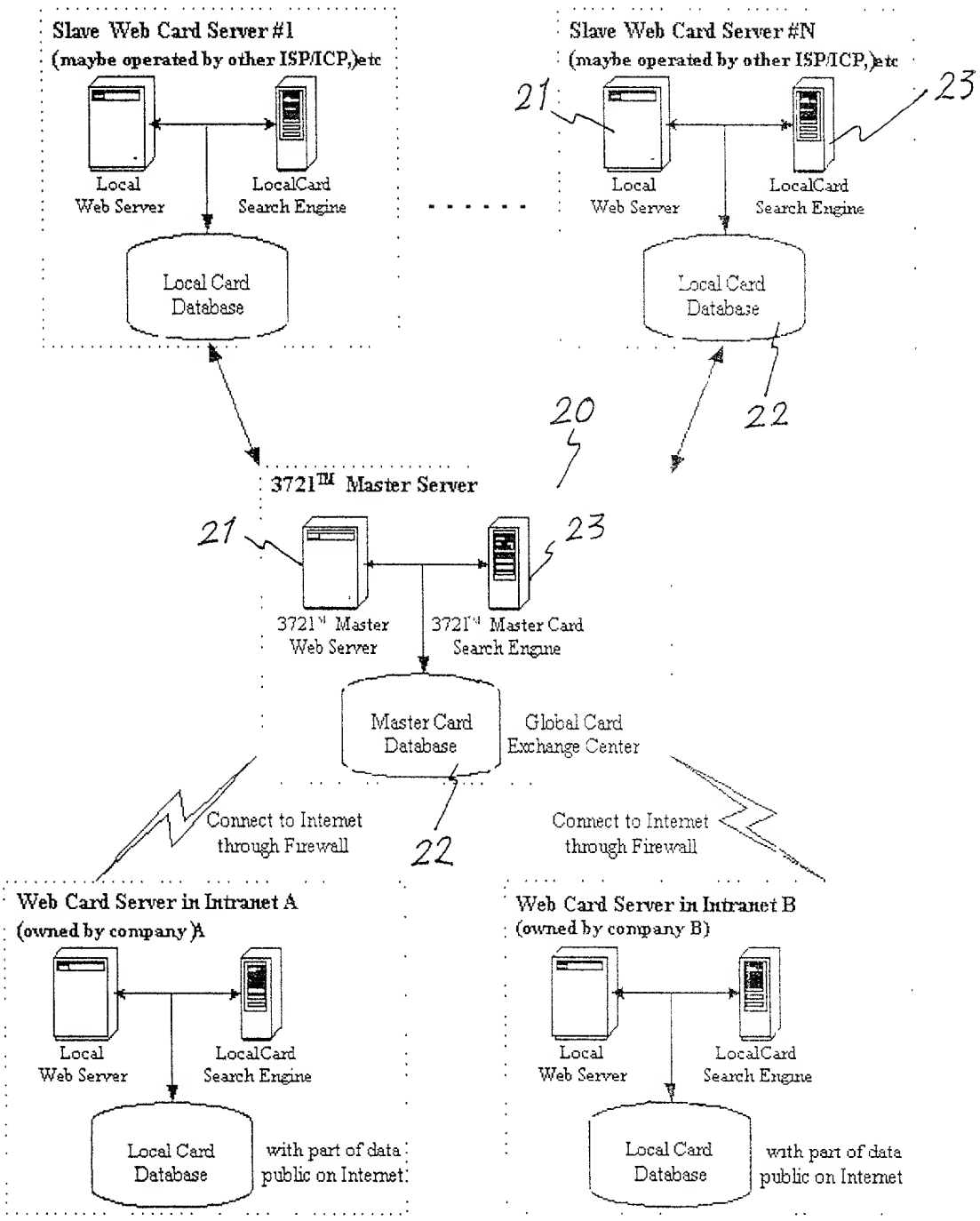
Slave Web Card Server #1
(maybe operated by other ISP/ICP,)etc
Local
Web Server
LocalCard
Search Engine
Local Card
Database
Slave Web Card Server #N
(maybe operated by other ISP/ICP,)etc
21
23
Local
Web Server
LocalCard
Search Engine
Local Card
Database
22
20
3721™ Master Server
21
23
3721™ Master
Web Server
3721™ Master Card
Search Engine
Master Card
Database
Global Card
Exchange Center
22
Connect to Internet
through Firewall
Connect to Internet
through Firewall
Web Card Server in Intranet A
(owned by company A)
Local
Web Server
LocalCard
Search Engine
Local Card
Database
with part of data
public on Internet
Web Card Server in Intranet B
(owned by company B)
Local
Web Server
LocalCard
Search Engine
Local Card
Database
with part of data
public on Internet

FIG1B

TOSTHO "SOSZESO

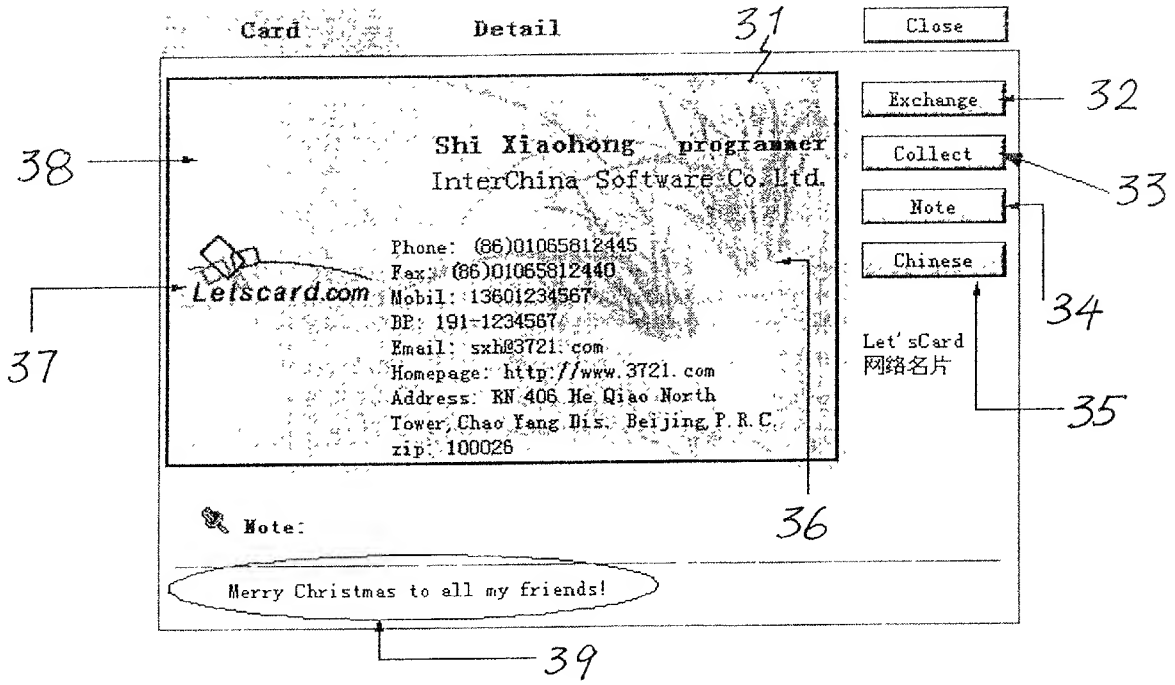

FIG 2A

Card Detail

Close

PERSONAL INFO

NAME	Shi Xiaohong
NICK	smith
HOME TEL	01065947351
HOME FAX	01065812440
MOBIL	13601234567
BP	191-1234567
PRIVATE EMAIL	[给我写信]
PERSONAL HOMEPAGE	http://wap.3721 com
HOME ADDR	Xi Da Wang Rd.,Chao Yang Dis. Beijing,P R.C.
ZIP	100027

OFFICE INFO

CORPRATION	InterChina Software Co.Ltd
DEPARTMENT	R&D
POSITION	programmer
OFFICE PHONE	(86)01065812445

OTHER INFO

OICQ NO	23614683
OTHER EMAIL	sxh2@3721 com
BIRTHDAY	10/09
BLOOD TYPE	AB型
CONSTELLATION	Libra

FIG 2B

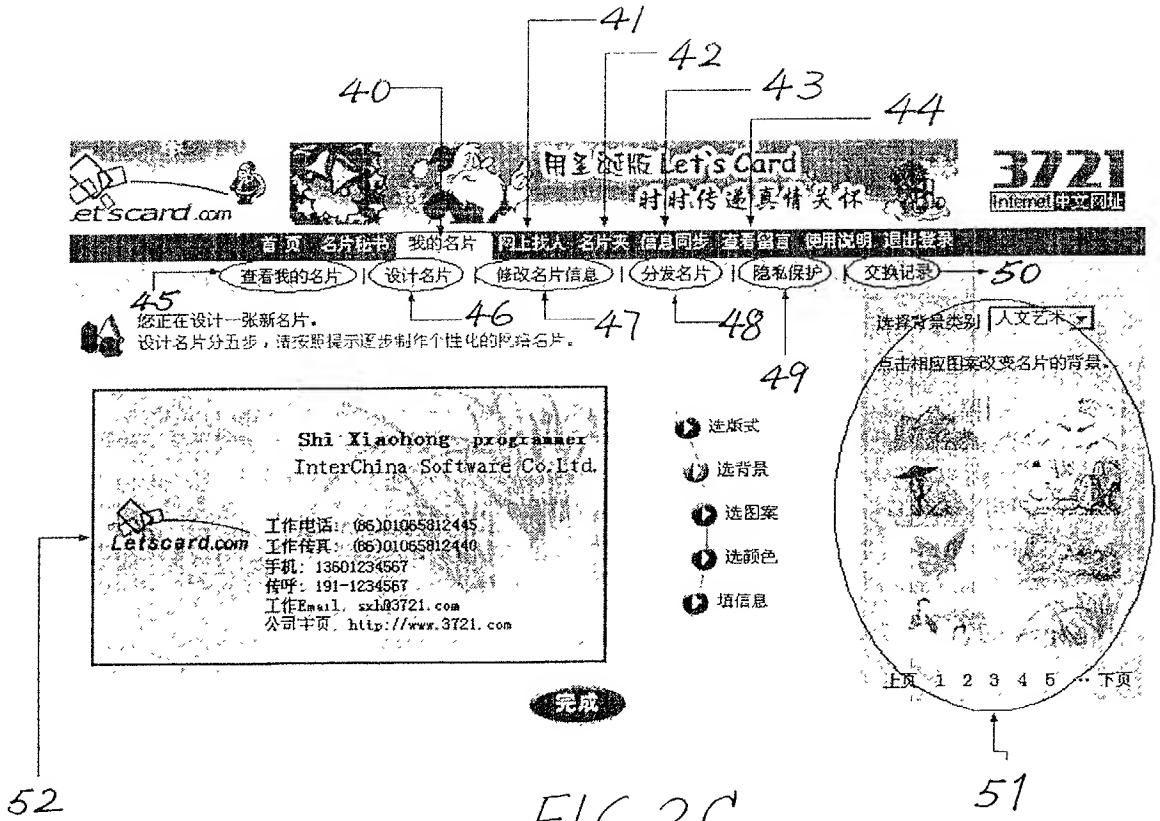
41
42
43
44
40
用至诚版 Let's Card
时时传递 真情关怀
3721
Internet 中文网址
et'scard.com
首页 名片秘书 我的名片 网上找人 名片夹 信息同步 查看留言 使用说明 退出登录
查看我的名片
设计名片
修改名片信息
分发名片
隐私保护
交换记录
50
45
46
47
48
49
您正在设计一张新名片。
设计名片分五步，请按照提示逐步制作个性化的网络名片。
Shi Xiaohong programmer
InterChina Software Co.Ltd.
Letscard.com
工作电话：(86)01065812445
工作传真：(86)01065812440
手机：13501234567
传呼：191-1234567
工作Email：sxh@3721.com
公司主页：http://www.3721.com
选版式
选背景
选图案
选颜色
填信息
完成
选择背景类别 人文艺术
点击相应图案改变名片的背景。
上页 1 2 3 4 5 下页
52
51

FIG 2C

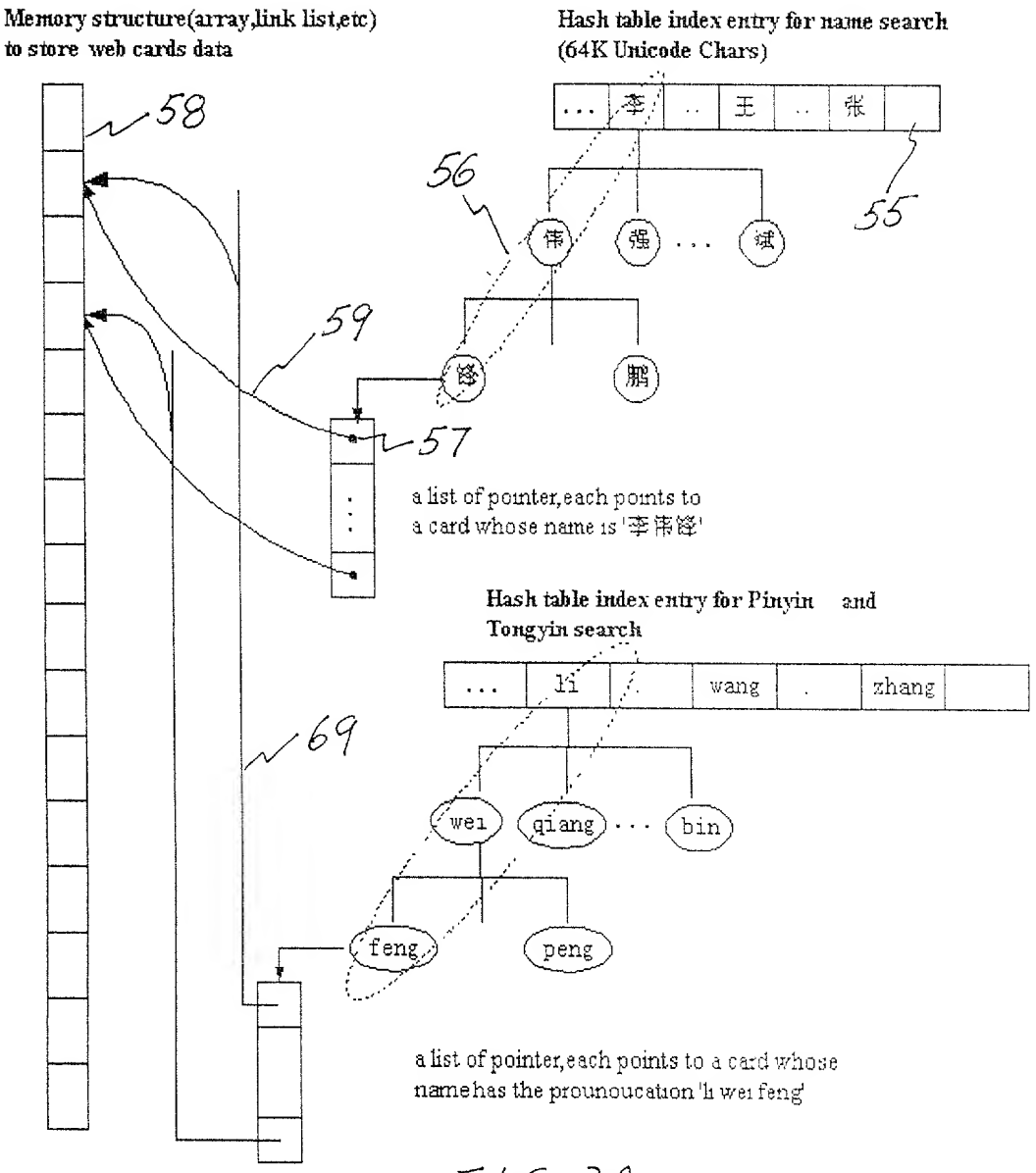
Memory structure(array,link list,etc)
to store web cards data
Hash table index entry for name search
(64K Unicode Chars)
58
56
55
59
57
69
a list of pointer,each points to
a card whose name is '李伟峰'
Hash table index entry for Pinyin and
Tongyin search
wei
qiang
bin
feng
peng
a list of pointer,each points to a card whose
name has the prounoucation 'li wei feng'

FIG 3A

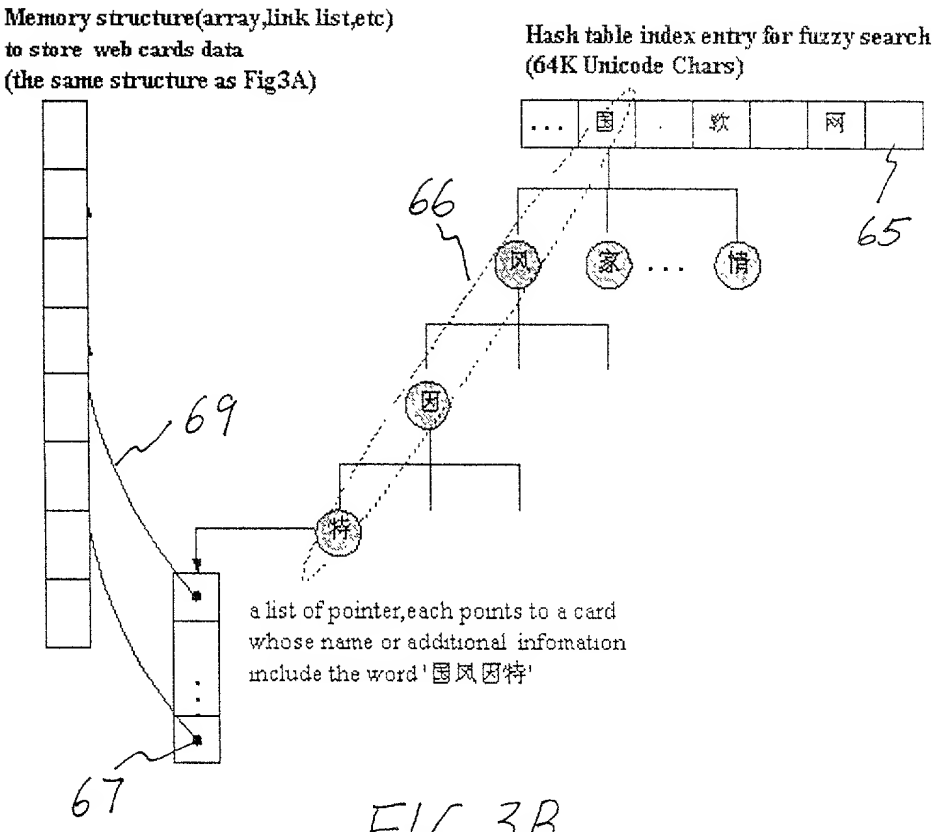
Memory structure(array,link list,etc)
to store web cards data
(the same structure as Fig3A)
Hash table index entry for fuzzy search
(64K Unicode Chars)
国
欢
网
66
65
风
家
情
因
特
69
a list of pointer,each points to a card
whose name or additional infomation
include the word '国风因特'
67

FIG 3B

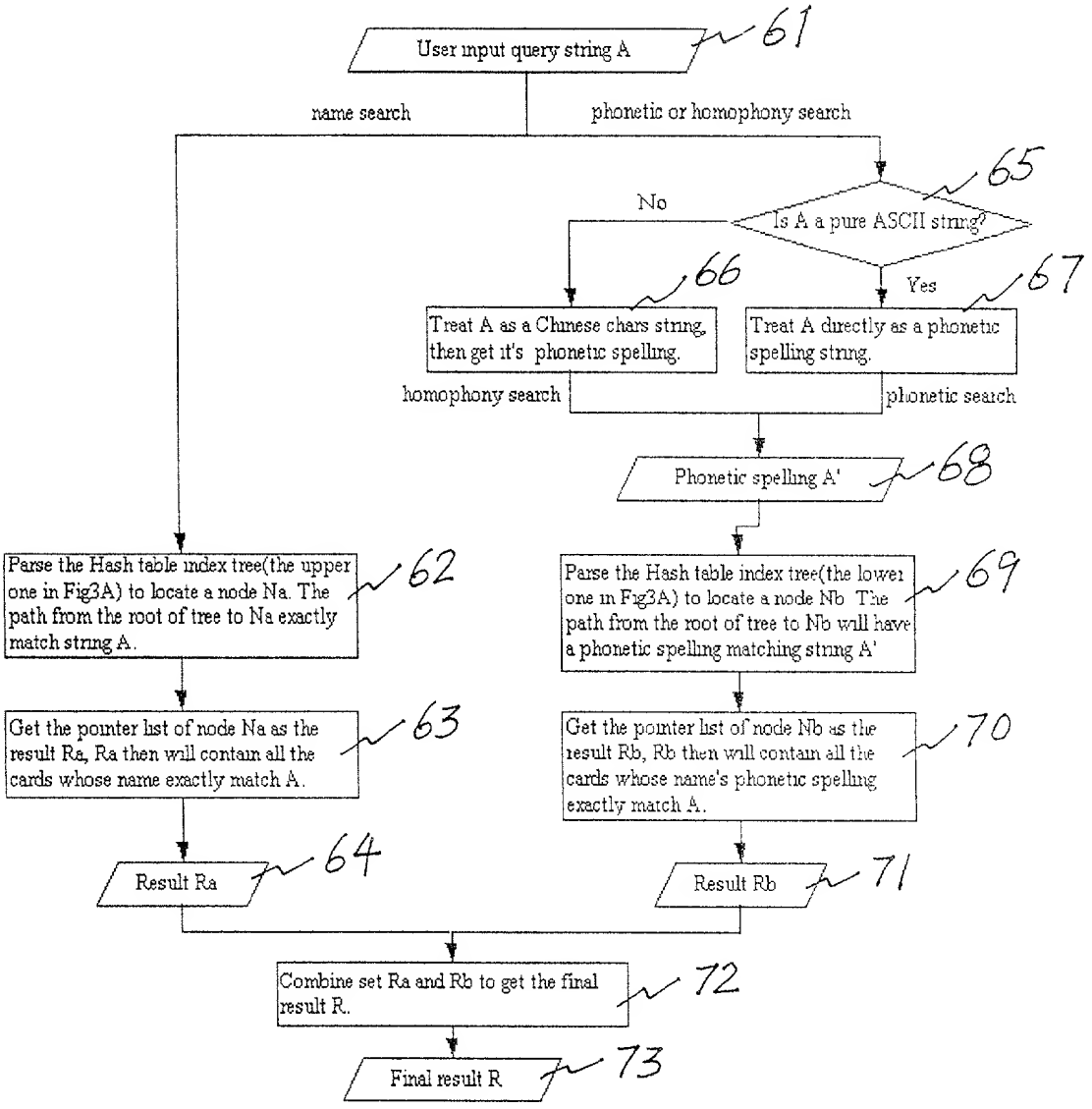
User input query string A
61
name search
phonetic or homophony search
65
Is A a pure ASCII string?
No
Yes
66
Treat A as a Chinese chars string, then get it's phonetic spelling.
67
Treat A directly as a phonetic spelling string.
homophony search
phonetic search
Phonetic spelling A'
68
Parse the Hash table index tree(the upper one in Fig3A) to locate a node Na. The path from the root of tree to Na exactly match string A.
62
Parse the Hash table index tree(the lower one in Fig3A) to locate a node Nb. The path from the root of tree to Nb will have a phonetic spelling matching string A'
69
Get the pointer list of node Na as the result Ra, Ra then will contain all the cards whose name exactly match A.
63
Get the pointer list of node Nb as the result Rb, Rb then will contain all the cards whose name's phonetic spelling exactly match A.
70
Result Ra
64
Result Rb
71
Combine set Ra and Rb to get the final result R.
72
Final result R
73

FIG 4A

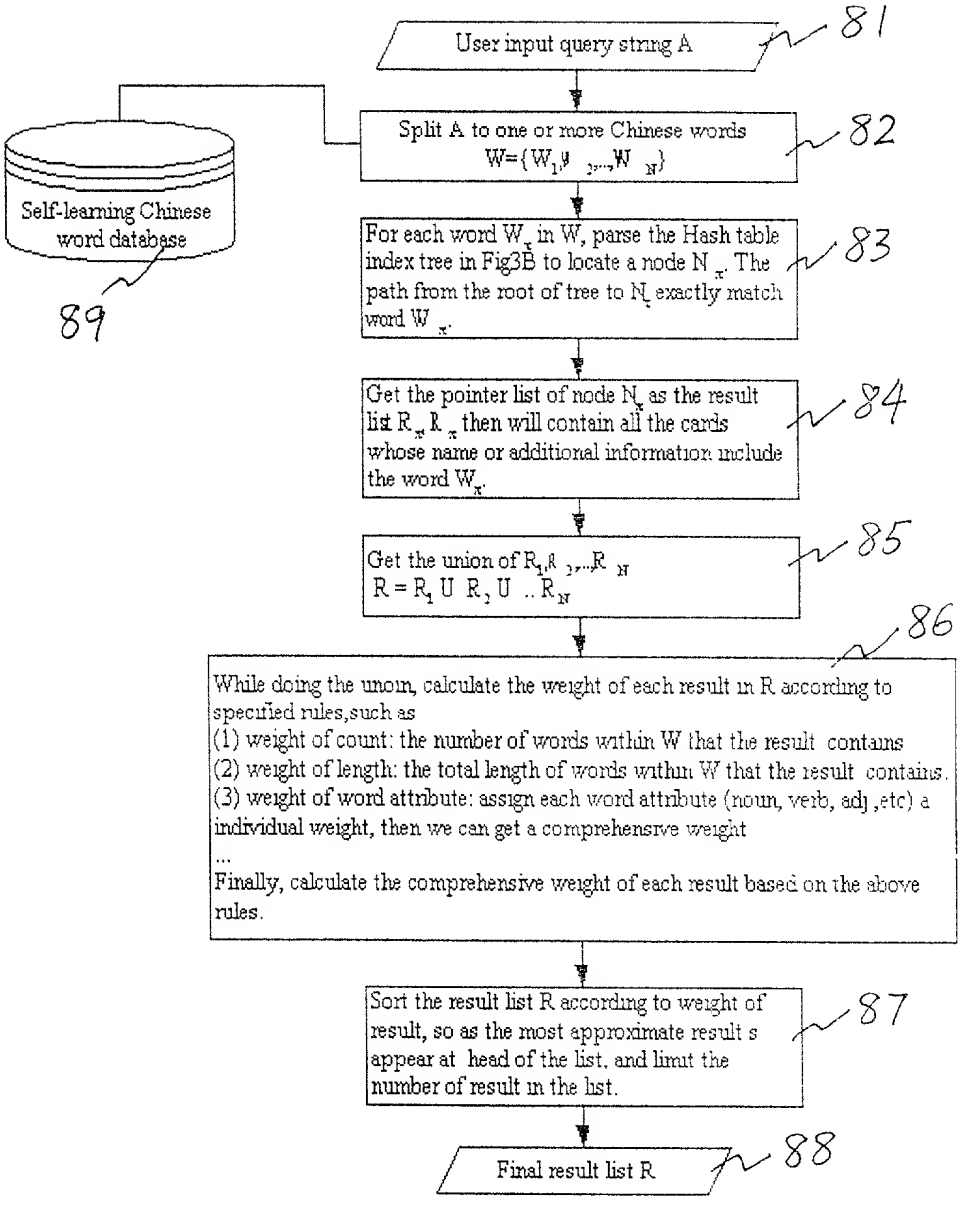
User input query string A
81
Split A to one or more Chinese words
W={W1,W2,...,WN}
82
Self-learning Chinese word database
89
For each word Wx in W, parse the Hash table index tree in Fig3B to locate a node Nx. The path from the root of tree to Nx exactly match word Wx.
83
Get the pointer list of node Nx as the result list Rx. Rx then will contain all the cards whose name or additional information include the word Wx.
84
Get the union of R1,R2,...RN
R = R1 U R2 U .. RN
85
86
While doing the union, calculate the weight of each result in R according to specified rules,such as
(1) weight of count: the number of words within W that the result contains
(2) weight of length: the total length of words within W that the result contains.
(3) weight of word attribute: assign each word attribute (noun, verb, adj ,etc) a individual weight, then we can get a comprehensive weight
...
Finally, calculate the comprehensive weight of each result based on the above rules.
Sort the result list R according to weight of result, so as the most approximate result s appear at head of the list, and limit the number of result in the list.
87
Final result list R
88

FIG 4B

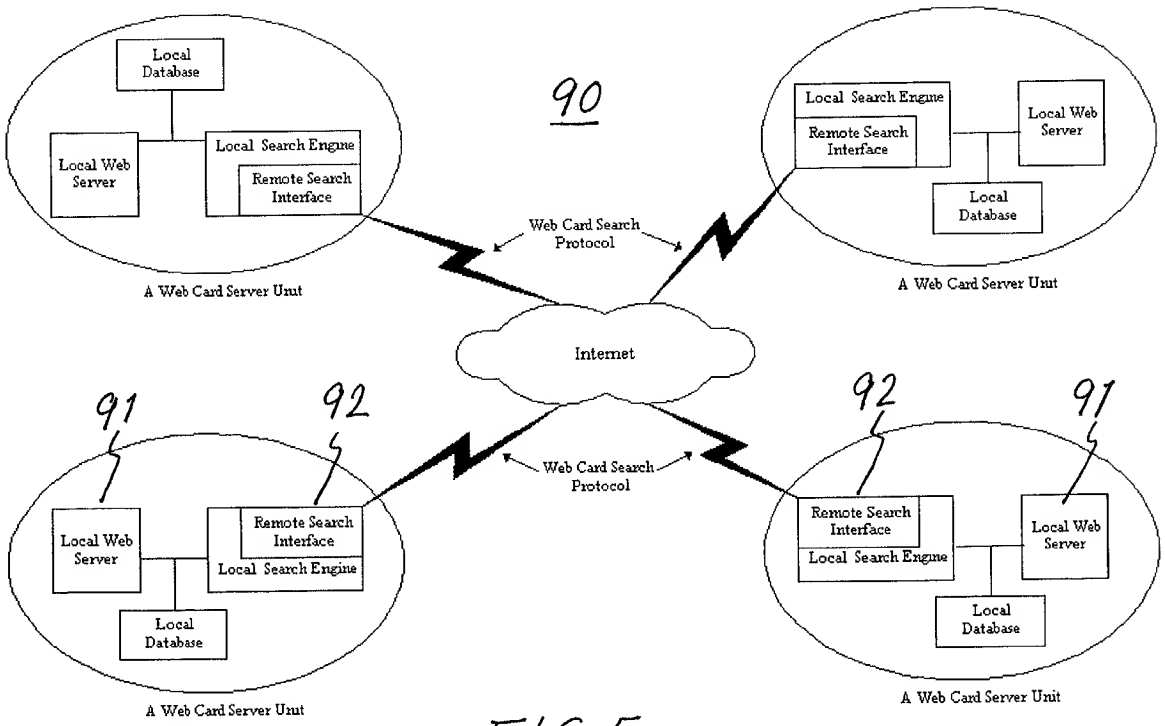
90
Local Database
Local Web Server
Local Search Engine
Remote Search Interface
A Web Card Server Unit
Web Card Search Protocol
Local Search Engine
Remote Search Interface
Local Web Server
Local Database
A Web Card Server Unit
Internet
91
92
Local Web Server
Remote Search Interface
Local Search Engine
Local Database
A Web Card Server Unit
Web Card Search Protocol
92
91
Remote Search Interface
Local Search Engine
Local Web Server
Local Database
A Web Card Server Unit

FIG. 5

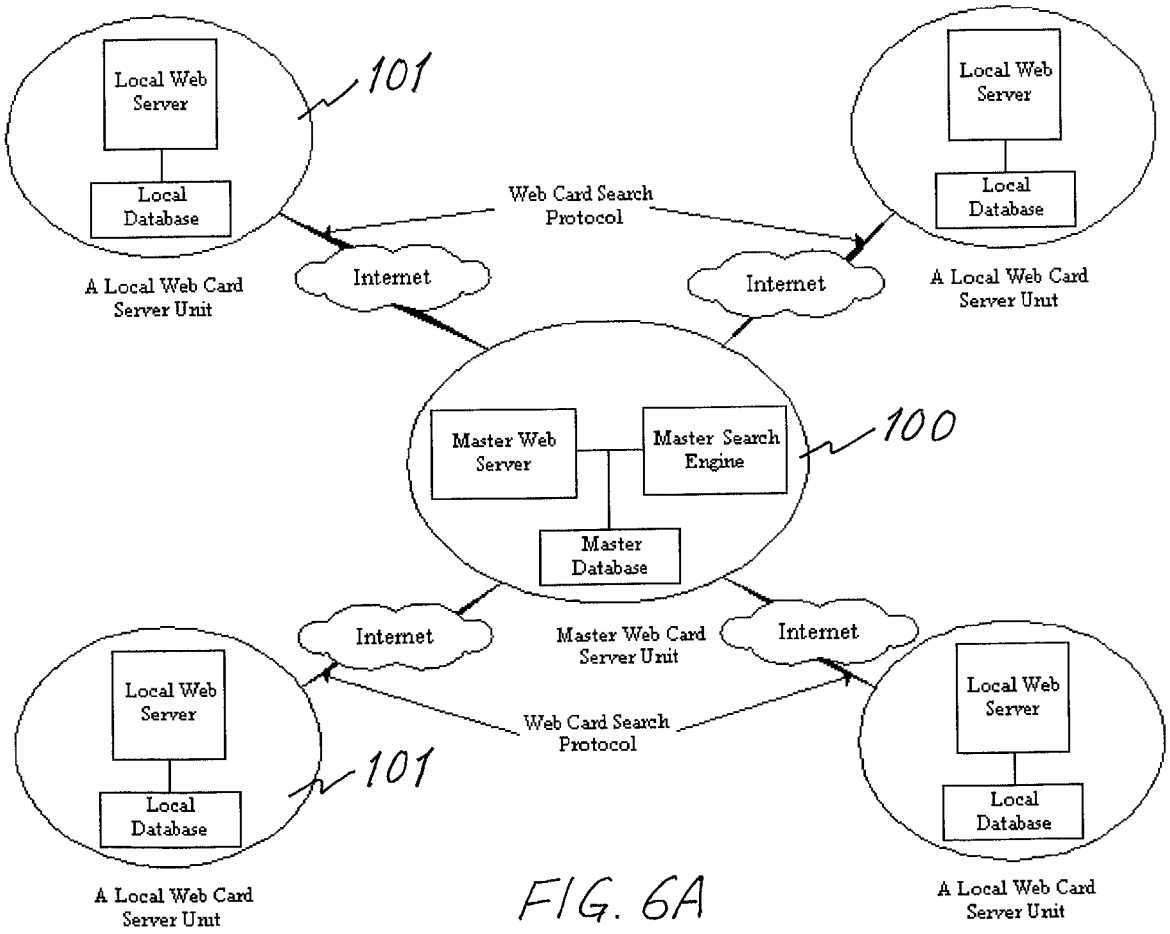
Local Web Server
Local Database
101
A Local Web Card Server Unit
Web Card Search Protocol
Internet
Internet
Local Web Server
Local Database
A Local Web Card Server Unit
Master Web Server
Master Search Engine
Master Database
100
Master Web Card Server Unit
Internet
Internet
Local Web Server
Local Database
101
A Local Web Card Server Unit
Web Card Search Protocol
Local Web Server
Local Database
A Local Web Card Server Unit

FIG. 6A

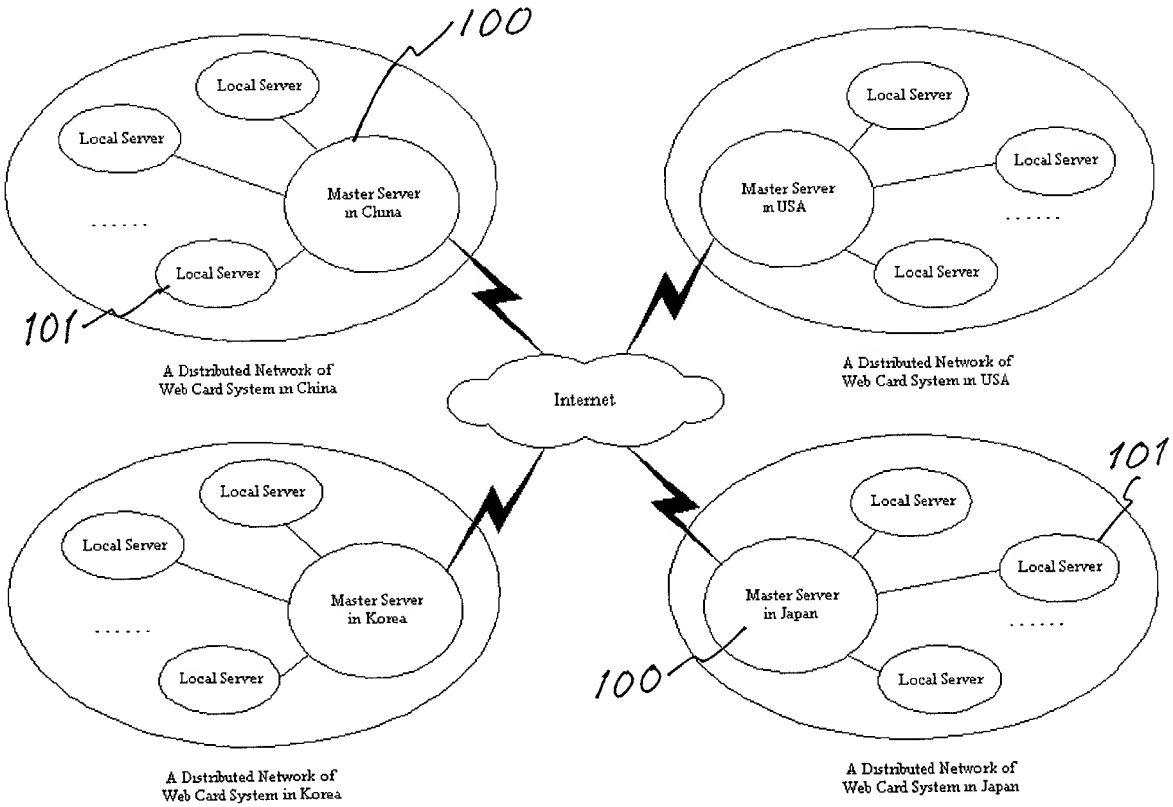
100
Local Server
Local Server
Master Server
in China
Local Server
101
A Distributed Network of
Web Card System in China
Internet
Local Server
Master Server
in USA
Local Server
Local Server
A Distributed Network of
Web Card System in USA
Local Server
Local Server
Master Server
in Korea
Local Server
A Distributed Network of
Web Card System in Korea
101
Local Server
Local Server
Master Server
in Japan
Local Server
100
A Distributed Network of
Web Card System in Japan

FIG. 6B